



#### **PATENT**

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):

Schwartz-Albiez, et al.

Examiner:

Unassigned

Serial No.:

10/594,382

Group Art Unit:

Unassigned

Filed:

September 26, 2006

Confirmation No:

Unassigned

International

Application No.:

PCT/EP2005/003403

Docket:

Dated:

294-262 PCT/US

January 9, 2007

International

Filing Date:

March 31, 2005

For:

METHOD FOR

**EXPANDING** 

POSTEMBRYONIC

STEM AND

PROGENITOR CELLS FROM UMBILICAL

CORD BLOOD AND IMMUNOTHERA-

PEUTIC AGENT

I hereby certify this correspondence is being deposited with the United States Postal Service as first class

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Alexandria, Virginia 22313-1450

on <u>January</u> 9, 2007

Signature

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### INFORMATION DISCLOSURE STATEMENT

Sir:

In order to fulfill the requirements of candor and good faith set forth in 37 C.F.R. §1.56, Applicants submit herewith the following Information Disclosure Statement in accordance with the provisions of 37 C.F.R. §1.97 and §1.98.

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## **FOREIGN PATENT DOCUMENTS**

<u>COUNTRY</u> <u>PUBLICATION NO.</u> <u>PUBLICATION DATE</u>

Germany DE 102 45 927 A April 15, 2004

## **NON-PATENT PUBLICATIONS**

- 1. Theunissen, et al., "Long-term engrafting umbilical cord blood cells are preserved after ex vivo culture in stroma-free culture," *Online!* May 2001, http://mmserver.cjp.com/gems/blood/ABMT.10.verfaillie.pdf, pgs 599-603.
- 2. Pankaj, et al., "Human LTC-IC can be maintained for at least 5 weeks in vitro when interleukin-3 and a single chemokine are combined with o-sulfated heparin sulfates: Requirement for optimal binding interactions of heparin sulfate with early-acting cytokines and matrix proteins," *Blood* January 2000, 95(1):147-155.
- 3. Pankaj, et al., "Structurally specific heparin sulfates support primitive human hematopoiesis by formation of a multimolecular stem cell niche," *Blood* December 1998, 92(12):4641-4651.
- 4. Lewis, et al., "Umbilical cord blood cells capable of engrafting in primary, secondary, and tertiary xenogeneic hosts are preserved after ex vivo culture in a noncontact system," *Blood* June 2001, 97(11):3441-3449.
- 5. Schubert, "Einfluss regioselektiv modifizierter Heparansulfate auf den Erhalt and die Expansion primitiver hamatopoietischer Stammzelle and Vorlauferzellen," *Online!* 2004, http://doctor-schubert.de/downloads/Dissertation%20M.Schubert.pdf.

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6. Punzel, et al., "The microenvironment of AFT024 cells maintains primitive

human hematopoiesis by counteracting contact mediated inhibition of proliferation." Cell

Communication & Adhesion, May-June 2002, 9(3):149-159.

7. Gupta, et al., "Artificial 'proteoglycan-like' molecules containing heparin sulfate

enhance the ability of cytokines to maintain human hematopoietic stem cells in vitro,"

Journal of Investigative Medicine, 1995, 43(SUPL.2):342A.

8. Moore, et al., "In vitro maintenance of highly purified, transplantable

hematopoietic stem cells," *Blood*, 1997, 89(12):4337-4347.

9. Moore, et al., "Hematopoietic Activity of a Stromal Cell Transmembrane Protein

Containing Epidermal Growth Factor-Like Repeat Motifs," Proceedings of the National

Academy of Sciences of USA, April 1997, 94:4011-4016.

10. Stringer, et al., "Identification of an MIP-1alpha-binding heparin sulfate

oligosaccharide that supports long-term in vitro maintenance of human LTC-ICs," Blood,

March 2003, 101(6):2243-2245.

Each of the above references were listed in the International Search Report issued in

the corresponding International Application. A copy of the International Search Report was

previously filled with the application.

Copies of the cited references should have been provided by the International

Searching Authority. Upon receipt of a Notification of Acceptance of Application indicating

what items have been received by the Patent and Trademark Office, Applicant will review the

same to ensure that the references were provided.

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The references are listed on Applicant's Form PTO-1449, which is attached to this

Information Disclosure Statement for the convenience of the Examiner. Applicant requests

consideration of each of the documents listed on the attached Form PTO-1449, and that such

consideration be indicated by initialing each citation thereon.

This Statement is being filed before the mailing of a first Office Action on the merits.

Applicant believes that no fee for this submission is due. If, however, a fee is due for entry of

this Information Disclosure Statement, the Office is authorized to charge Deposit Account

No. 08-2461 for any such fee.

If there are any questions regarding this submission, please contact Applicant's

attorney at the phone number listed below.

Respectfully submitted,

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ORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Rev. 2-32) PATENT AND TRADEMARK OFFICE

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.		
294-262 PCT/US	10/594,382		
APPLICANT Schwartz-Albiez, et al.	CONFIRMATION NO. Unassigned		
FILING DATE	GROUP		
September 26, 2006	Unassigned		

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
							YES	NO
		DE 102 45 927 A	04/15/2004	Germany				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Theunissen, et al., "Long-term engrafting umbilical cord blood cells are preserved after ex vivo culture in stroma-free culture," Online! May 2001, http://mmserver.cjp.com/ gems/blood/ABMT.10.verfaillie.pdf, pgs 599-603. Pankaj, et al., "Human LTC-IC can be maintained for at least 5 weeks in vitro when interleukin-3 and a single chemokine are combined with o-sulfated heparin sulfates: Requirement for optimal binding interactions of heparin sulfate with early-acting cytokines and matrix proteins," Blood January 2000, 95(1):147-155. Pankaj, et al., "Structurally specific heparin sulfates support primitive human hematopoiesis by formation of a multimolecular stem cell niche," Blood December 1998, 92(12):4641-4651. Lewis, et al., "Umbilical cord blood cells capable of engrafting in primary, secondary, and tertiary xenogeneic hosts are preserved after ex vivo culture in a noncontact system," *Blood* June 2001, 97(11):3441-3449. Schubert, "Einfluss regioselektiv modifizierter Heparansulfate auf den Erhalt and die Expansion primitiver hamatopoietischer Stammzelle and Vorlauferzellen," Online! 2004, http://doctorschubert.de/downloads/Dissertation%20M.Schubert.pdf.

### **EXAMINER**

## DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.

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	U.S. DEPARTMENT OF COMMERCE ENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 294-262 PCT/US SERIAL NO. 10/594,382				
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	Punzel, et al., "The microenvir human hematopoiesis by count proliferation." Cell Communic 159.  Gupta, et al., "Artificial 'protection sulfate enhance the ability of cells in vitro," Journal of Investigation	teracting contact mediate cation & Adhesion, May oglycan-like' molecules ytokines to maintain hur	ed inhibition of -June 2002, 9(3):149-  containing heparin man hematopoietic stem			
		ore, et al., "In vitro maintenance of highly purified, transplantable atopoietic stem cells," <i>Blood</i> , 1997, 89(12):4337-4347.				
	Protein Containing Epidermal	Activity of a Stromal Cell Transmembrane I Growth Factor-Like Repeat Motifs,"  Academy of Sciences of USA, April 1997,				
	Stringer, et al., "Identification oligosaccharide that supports l ICs," <i>Blood</i> , March 2003, 101	ong-term in vitro mainte	ng heparin sulfate enance of human LTC-			

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